

REMARKS

I. Status of the Application

Claims 1, 2, 5-33, and 36-59 are all the claims pending in the application. Claims 3-4 and 34-35 have been canceled. The rejection of claims 32 and 33 under 35 U.S.C. §112, first paragraph has been withdrawn. The rejection of claim 1 under 35 U.S.C. § 112, first and second paragraphs has been withdrawn. The rejection of claims 32, 33, and 36-59 under 35 U.S.C. §101 has been withdrawn. The Examiner has withdrawn the obviousness rejection based on U.S. Patent No. 6,678,770 to Sutoh ("Sutoh"), in anticipation of Applicant's filing the verified translation of Korean Patent Application 10-2000-0009624, which is filed herewith. Claims 1, 2, 5-33, and 36-59 stand rejected on new prior art grounds.

II. Claim Rejections - 35 USC § 103

Claims 1, 2, 5-33, and 36-59 stand rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over U.S. Patent No. 6,697,352 to Ludwig ("Ludwig") in view of newly cited U.S. Patent No. 6,618,383 to Tomlins ("Tomlins") in further view of U.S. Patent No. 6,154,780 to Zhu ("Zhu"). Applicant respectfully traverses the rejection as follows.

A. Claim 1

Claim 1 recites,

A method of transmitting a bit stream in a communication network from a first terminal to a second terminal, the method comprising:

(a) coding source data into the bit stream using a predetermined type of coding;

(b) adding a header from each communication protocol layer to a payload while transmitting the bit stream coded in operation (a) to each communication protocol layer; and

(c) transmitting, from the first terminal to the second terminal, the header separately from the bit stream transmitted in the operation (b),

wherein in the operation (c), a bit stream, to which header information has been added by undergoing each communication protocol layer, is transmitted in an unacknowledged mode protocol, and only the header information in the bit stream is separately transmitted in an acknowledged mode protocol.

The Examiner maintains that Ludwig teaches most of the features of claim 1. The Examiner concedes that Ludwig does not disclose transmitting, from the first terminal to the second terminal, the header separately from the bit stream and only the header information in the bit stream is separately transmitted. However, the Examiner asserts that Tomlins cures the deficient teachings of Ludwig in this regard by disclosing “transmitting said payload and control information in parallel over separate serial lines.” *See* Tomlins at col. 2, lines 51-62; Fig. 7.

The Examiner contends that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Ludwig to include the features of transmitting, from the first terminal to the second terminal, the header separately from the bit stream and only the header information in the bit stream is separately transmitted, as taught by Tomlins, in order to provide an interface arranged to convey variable length voice and data information packets between processing devices in an asynchronous adaptation arrangement as suggested by Tomlins. *See* Tomlins at col. 3, lines 3 - 9. However, the Examiner’s proffered reason for combining Ludwig and Tomlins is not supportable.

Initially, Applicant submits that the portion of Tomlins cited by the Examiner does not support the Examiner’s purported reason for combining the references. In particular, the portion of Tomlins cited by the Examiner merely teaches that variable length voice and data information packets may be conveyed over an interface in an asynchronous adaptation arrangement, wherein the voice and data information packets are conveyed in a serial manner within micro-packets whereby to obviate the use of null or padding data. *See* Tomlins at col. 3, lines 3-9. Neither this

portion of Tomlins, nor the Examiner, provides any rationale as to how transmitting the header separately from the bit stream allows for the transmission of variable length voice and data information packets between processing devices in an asynchronous adaptation arrangement. In fact, Tomlins teaches that the payload and control lines could be combined into a single logical line at twice the bit rate. *See* Tomlins at col. 13, lines 23-35. Therefore, the transmission of variable length voice and data information packets between processing devices in an asynchronous adaptation arrangement, can be achieved without transmitting the header separately from the payload, thus undermining the Examiner's position.

Moreover, Applicant submits that a person of ordinary skill in the art would not modify the system taught by Ludwig based on the teachings of Tomlins because the proposed combination would impermissibly render Ludwig unsatisfactory for its intended purpose. *See* MPEP § 2143.01 (stating "If a proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification."). More specifically, Applicant submits that Ludwig teaches a system in which a discriminator receives a packet from a protocol layer, and classifies the received packet (*e.g.*, into a numbered or unnumbered mode) according to a set of predetermined rules. *See* Ludwig at col. 9, line 59 to col. 10, line 28. In other words, Ludwig essentially teaches that each data packet is transmitted in a numbered or unnumbered mode according to the type of data contained in the packet. In the numbered mode, if the sent packet was correctly received, the receiving peer will send an acknowledgment message to the sending peer. If the sending peer does not receive the acknowledgement message, the sending peer retransmits the packet. *See* Ludwig at col. 4, lines 14-29. In the unnumbered mode, there is no retransmission,

regardless of whether the packets are received correctly by the receiving peer. *See* Ludwig at col. 10, lines 33-38.

Therefore, the type of information contained in the packet determines the mode in which the packet is sent. This mode is set in each packet by setting a flag corresponding to the numbered or unnumbered mode. *See* Ludwig at col. 10, lines 18-27. Once the packet has been classified into numbered or unnumbered mode and the corresponding flag has been set, the packet is transmitted to the receiving peer. The receiving peer separates the numbered mode and unnumbered packets into distinct buffers or queues. *See* Ludwig at col. 14, lines 34-48. That is, the receiving peer must be able to determine whether the received packet was transmitted in the numbered or unnumbered mode so that each received packet is sorted into the correct buffer. Furthermore, the receiving peer needs to know the mode in which the received packet was transmitted, so that the receiving peer knows whether or not to send an acknowledgment message. If the received packet was sent in the numbered mode, the receiving peer needs to send an acknowledgement message so the sending peer does not retransmit the packet. On the other hand, if the received packet was transmitted in the unnumbered mode, there is no need for the receiving peer to send an acknowledgement message because the sending peer will not retransmit the packet anyway.

Accordingly, Applicant submits that the Examiner has failed to establish a *prima facie* case of obviousness, because the Examiner's proposed combination would render Ludwig unsatisfactory for its intended purpose. Therefore, Applicant submits that claim 1 is patentable for at least the foregoing reasons.

B. Claims 2, 29, 30, 32 and 33

Since claims 2, 29, 30, 32 and 33 recite features similar those discussed above with regard to claim 1, Applicant submits that such claims are patentable over the cited references for at least reasons similar to those set forth for claim 1.

C. Claims 5, 6, 36 and 37

Claims 5, 6, 36 and 37 recite, *inter alia*,

when a number of times of re-transmission of a bit stream transmitted in an acknowledged mode protocol is equal to or less than a predetermined number of times, the bit stream, which has been transmitted in an unacknowledged mode protocol, is transmitted in an acknowledged mode protocol.

The Examiner asserts that col. 12, lines 41-50 of Ludwig discloses this feature of claims 5, 6, 36 and 37. However, the cited portion of Ludwig merely discloses that when a packet is received, a counter only allows moving up to a next protocol layer for a predetermined number of times, where the exceeding of said predetermined number leads to assigning the received packet to a numbered mode or unnumbered mode by default. *See* Ludwig at col. 12, lines 41-50. Moreover, the cited portion of Ludwig fails to teach that, after a predetermined number of re-transmissions, a bit stream that has been transmitted in the unacknowledged mode, is transmitted in an acknowledged mode. That is, Ludwig merely teaches that a packet that has been transmitted is assigned to an acknowledged or unacknowledged mode by default after the number of moves to the next protocol layer has exceeded a predetermined number. The bit stream of Ludwig is not re-transmitted in a different mode. Instead, the received bit stream is assigned to a default mode, regardless of the mode in which the packet was actually sent.

Therefore, Applicant submits that Ludwig fails to teach the above claimed featured, and since Tomlins and Zhu fail to cure the deficient teachings of Ludwig in this regard, claims 5, 6,

36 and 37 are patentable for at least the foregoing reasons. In addition, Applicant submits that claims 5, 6, 36 and 37 are patentable at least by virtue of their respective dependencies from claims 1, 2, 32 and 33.

D. Claims 7-28 and 38-59

Since claims 7, 9-11, 13, 15, 17, 19, 21, 23, 25 and 27 are dependent upon claim 1, claims 8, 12, 14, 16, 18, 20, 22, 24, 26 and 28 are dependent upon claim 2, claims 38, 40-42, 44, 46, 48, 50, 52, 54, 56 and 58 are dependent upon claim 32, and claims 39, 43, 45, 47, 49, 51, 53, 55, 57 and 59 are dependent upon claim 33, Applicant submits that such claims are patentable at least by virtue of their respective dependencies.

E. Claims 31

Since claim 31 is dependent upon claim 30, Applicant submits that it is patentable at least by virtue of its dependency.

III. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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